

SEQUENCE LISTING

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STREET, IAN P.

<120> PEPTIDES AND THERAPEUTIC USES THEREOF

<130> 23558-019

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<160> 70

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<223> see specification as filed for detailed description
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<220>
 <221> MOD_RES
 <222> (4)
 <223> Asp, Lys, Glu or Orn and this residue is linked to position 11 by a linker

<220>
 <221> MOD_RES
 <222> (11)
 <223> Asp, Lys, Glu or Orn and this residue is linked to position 4 by a linker

<220>
 <223> see specification as filed for detailed description of substitutions and preferred embodiments

<400> 24
 Ile Xaa Gln Xaa Leu Arg Arg Ile Ala Asp Xaa Phe
 1 5 10

<210> 25
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (4)
 <223> Asp, Lys, Glu or Orn and this residue is linked to position 11 by a linker

<220>
 <221> MOD_RES
 <222> (11)
 <223> Asp, Lys, Glu or Orn and this residue is linked to position 4 by a linker

<220>

<223> see specification as filed for detailed description
of substitutions and preferred embodiments

<400> 25

Tyr Ala Gln Xaa Leu Arg Arg Ile Gly Asp Xaa Phe
1 5 10

<210> 26

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<221> MOD_RES

<222> (4)

<223> Asp, Lys, Glu or Orn and this residue is linked
to position 11 by a linker

<220>

<221> MOD_RES

<222> (11)

<223> Asp, Lys, Glu or Orn and this residue is linked
to position 4 by a linker

<220>

<223> see specification as filed for detailed description
of substitutions and preferred embodiments

<400> 26

Ala Ala Gln Xaa Leu Arg Arg Ile Gly Asp Xaa Phe
1 5 10

<210> 27

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<221> MOD_RES

<222> (4)

<223> Asp, Lys, Glu or Orn and this residue is linked
to position 11 by a linker

<220>

<221> MOD_RES

<222> (11)

<223> Asp, Lys, Glu or Orn and this residue is linked
to position 4 by a linker

<220>

<223> see specification as filed for detailed description
of substitutions and preferred embodiments

<400> 27

Ile Ala Gln Xaa Ala Arg Arg Ile Gly Asp Xaa Phe
1 5 10

<210> 28

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

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<222> (4)

<223> Asp, Lys, Glu or Orn and this residue is linked
to position 11 by a linker

<220>

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<222> (11)

<223> Asp, Lys, Glu or Orn and this residue is linked
to position 4 by a linker

<220>

<223> see specification as filed for detailed description
of substitutions and preferred embodiments

<400> 28

Ile Ala Gln Xaa Leu Arg Arg Ala Gly Asp Xaa Phe
1 5 10

<210> 29

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>
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 <222> (4)
 <223> Asp, Lys, Glu or Orn and this residue is linked
 to position 11 by a linker

<220>
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 <222> (11)
 <223> Asp, Lys, Glu or Orn and this residue is linked
 to position 4 by a linker

<220>
 <223> see specification as filed for detailed description
 of substitutions and preferred embodiments

<400> 29
 Ile Ala Gln Xaa Leu Arg Arg Ile Gly Asp Xaa Ala
 1 5 10

<210> 30
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<220>
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 <222> (4)
 <223> Asp, Lys, Glu or Orn and this residue is linked
 to position 11 by a linker

<220>
 <221> MOD_RES
 <222> (11)
 <223> Asp, Lys, Glu or Orn and this residue is linked
 to position 4 by a linker

<220>
 <223> see specification as filed for detailed description
 of substitutions and preferred embodiments

<400> 30
 Ile Ala Gln Xaa Leu Ser Ser Ile Gly Asp Xaa Phe
 1 5 10

<210> 31
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (4)

<223> Asp, Lys, Glu or Orn and this residue is linked to position 11 by a linker

<220>

<221> MOD_RES

<222> (11)

<223> Asp, Lys, Glu or Orn and this residue is linked to position 4 by a linker

<220>

<223> see specification as filed for detailed description of substitutions and preferred embodiments

<400> 31

Ile	Ala	Gln	Xaa	Leu	Arg	Arg	Ile	Gly	Asp	Xaa	Phe	Asn	Ala	Ser	Phe
1				5				10						15	

<210> 32

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (4)

<223> Asp, Lys, Glu or Orn and this residue is linked to position 11 by a linker

<220>

<221> MOD_RES

<222> (11)

<223> Asp, Lys, Glu or Orn and this residue is linked to position 4 by a linker

<220>

<223> see specification as filed for detailed description of substitutions and preferred embodiments

<400> 32

Lys	Ile	Ala	Xaa	Leu	Arg	Arg	Ile	Gly	Asp	Xaa	Phe
1				5				10			

<210> 33
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (1)
 <223> Asp or Glu and this residue is linked to position 8 by a linker

<220>
 <221> MOD_RES
 <222> (8)
 <223> Asp or Glu and this residue is linked to position 1 by a linker

<220>
 <223> see specification as filed for detailed description of substitutions and preferred embodiments

<400> 33
 Xaa Ile Ala Gln Glu Leu Arg Xaa Ile Gly Asp Glu Phe
 1 5 10

<210> 34
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (4)
 <223> Asp or Glu and this residue is linked to position 11 by a linker

<220>
 <221> MOD_RES
 <222> (11)
 <223> Asp or Glu and this residue is linked to position 4 by a linker

<220>
 <223> see specification as filed for detailed description of substitutions and preferred embodiments

<400> 34
 Ile Ala Gln Xaa Leu Arg Arg Ile Gly Asp Xaa Phe
 1 5 10

<210> 35
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (4)
 <223> Asp or Glu and this residue is linked to position 11 by a linker

<220>
 <221> MOD_RES
 <222> (11)
 <223> Asp or Glu and this residue is linked to position 4 by a linker

<220>
 <223> see specification as filed for detailed description of substitutions and preferred embodiments

<400> 35
 Ile Ala Gln Xaa Leu Arg Arg Ile Gly Asp Xaa Phe
 1 5 10

<210> 36
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (4)
 <223> Asp or Glu and this residue is linked to position 11 by a linker

<220>
 <221> MOD_RES
 <222> (11)
 <223> Asp or Glu and this residue is linked to position 4 by a linker

<220>
 <223> see specification as filed for detailed description of substitutions and preferred embodiments

<400> 36

Ile Ala Gln Xaa Leu Arg Arg Ile Gly Asp Xaa Phe
 1 5 10

<210> 37

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 37

Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Phe Asn
 1 5 10

<210> 38

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 38

Asp Leu Arg Pro Glu Ile Arg Ile Ala Gln Glu Leu Arg Arg Ile Gly
 1 5 10 15

Asp Glu Phe Asn Glu Thr Tyr Thr Arg Arg
 20 25

<210> 39

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 39

Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Phe Asn
 1 5 10

<210> 40

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 40

Asp Leu Arg Pro Glu Ile Arg Ile Ala Gln Glu Leu Arg Arg Ile Gly
 1 5 10 15

Asp Glu Phe Asn Glu Thr Tyr Thr Arg Arg
 20 25

<210> 41

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide

<400> 41

Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Phe
 1 5 10

<210> 42

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide

<400> 42

Gln Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Phe
 1 5 10

<210> 43

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide

<220>

<221> MOD_RES

<222> (1)

<223> This residue is linked to position 8 by a linker

<220>

<221> MOD_RES

<222> (8)

<223> This residue is linked to position 1 by a linker

<220>

<223> see specification as filed for detailed description
of substitutions and preferred embodiments

<400> 43

Glu Ile Ala Gln Glu Leu Arg Glu Ile Gly Asp Glu Phe
1 5 10

<210> 44

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<221> MOD_RES

<222> (4)

<223> This residue is linked to position 11 by a linker

<220>

<221> MOD_RES

<222> (11)

<223> This residue is linked to position 4 by a linker

<220>

<223> see specification as filed for detailed description
of substitutions and preferred embodiments

<400> 44

Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Phe
1 5 10

<210> 45

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 45

Ile Trp Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Phe
1 5 10

<210> 46

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (2)

<223> This residue is linked to position 9 by a linker

<220>

<221> MOD_RES

<222> (9)

<223> This residue is linked to position 2 by a linker

<220>

<223> see specification as filed for detailed description of substitutions and preferred embodiments

<400> 46

Ile	Glu	Ile	Ala	Gln	Glu	Leu	Arg	Glu	Ile	Gly	Asp	Glu	Phe	Asn	Ala
1				5					10					15	

<210> 47

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (6)

<223> This residue is linked to position 13 by a linker

<220>

<221> MOD_RES

<222> (13)

<223> This residue is linked to position 6 by a linker

<220>

<223> see specification as filed for detailed description of substitutions and preferred embodiments

<400> 47

Ile	Trp	Ile	Ala	Gln	Glu	Leu	Arg	Arg	Ile	Gly	Asp	Glu	Phe	Asn	Ala
1				5					10					15	

<210> 48

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (9)

<223> This residue is linked to position 16 by a linker

<220>

<221> MOD_RES

<222> (16)

<223> This residue is linked to position 9 by a linker

<220>

<223> see specification as filed for detailed description of substitutions and preferred embodiments

<400> 48

Ile Trp Ile Ala Gln Glu Leu Arg Glu Ile Gly Asp Glu Phe Asn Glu
 1 5 10 15

<210> 49

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 49

Glu Ile Ala Gln Glu Leu Arg Glu Ile Gly Asp Glu Phe
 1 5 10

<210> 50

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 50

Ile Trp Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Phe Asn Ala
 1 5 10 15

<210> 51

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (6)

<223> This residue is linked to position 13 by a linker

<220>

<221> MOD_RES

<222> (13)

<223> This residue is linked to position 6 by a linker

<220>

<223> see specification as filed for detailed description of substitutions and preferred embodiments

<400> 51

Gln	Ala	Ile	Ala	Gln	Glu	Leu	Arg	Arg	Ile	Gly	Asp	Glu	Phe	Asn	Ala
1				5					10					15	

<210> 52

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 52

Ile	Trp	Ile	Ala	Gln	Gln	Leu	Arg	Arg	Ile	Gly	Asp	Gln	Phe	Asn	Ala
1				5					10					15	

<210> 53

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 53

Ile	Trp	Ala	Ala	Gln	Glu	Leu	Arg	Arg	Ile	Gly	Asp	Glu	Phe	Asn	Ala
1				5					10					15	

<210> 54

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 54

Ile Trp Ile Ala Gln Glu Ala Arg Arg Ile Gly Asp Glu Phe Asn Ala
1 5 10 15

<210> 55

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 55

Ile Trp Ile Ala Gln Glu Leu Arg Arg Ala Gly Asp Glu Phe Asn Ala
1 5 10 15

<210> 56

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 56

Ile Trp Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Ala Asn Ala
1 5 10 15

<210> 57

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 57

Ile Trp Ala Ala Gln Glu Ala Arg Arg Ala Gly Asp Glu Ala Asn Ala
1 5 10 15

<210> 58

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 58

Ile	Phe	Ile	Ala	Gln	Glu	Leu	Arg	Arg	Ile	Gly	Asp	Glu	Phe	Asn	Ala
1				5					10					15	

<210> 59

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 59

Ala	Trp	Ile	Ala	Gln	Glu	Leu	Arg	Arg	Ile	Gly	Asp	Glu	Phe	Asn	Ala
1				5					10					15	

<210> 60

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 60

Ile	Ala	Ile	Ala	Gln	Glu	Leu	Arg	Arg	Ile	Gly	Asp	Glu	Phe	Asn	Ala
1				5					10					15	

<210> 61

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 61

Ile	Arg	Ile	Ala	Gln	Glu	Leu	Arg	Arg	Ile	Gly	Asp	Glu	Phe	Asn	Ala
1				5					10					15	

<210> 62

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 62

Ile Trp Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Phe Ala Asn
1 5 10 15

<210> 63

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 63

Ile Trp Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Phe Ala Ala
1 5 10 15

<210> 64

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (8)..(9)

<223> Cit

<400> 64

Ile Trp Ile Ala Gln Glu Leu Xaa Xaa Ile Gly Asp Glu Phe Asn Ala
1 5 10 15

<210> 65

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 65

Ile Trp Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Phe Asn Asn
1 5 10 15

<210> 66
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 66
 Arg Glu Ile Gly Ala Gln Leu Arg Arg Met Ala Asp Asp Leu Asn Ala
 1 5 10 15

<210> 67
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 67
 Val Gln Ile Ala Arg Lys Leu Gln Ala Ile Ala Asp Gln Phe His Arg
 1 5 10 15

<210> 68
 <211> 26
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 68
 Asp Met Arg Pro Glu Ile Trp Ile Ala Gln Glu Leu Arg Arg Ile Gly
 1 5 10 15

Asp Glu Phe Asn Ala Tyr Tyr Ala Arg Arg
 20 25

<210> 69
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<220>
 <221> MOD_RES
 <222> (1)
 <223> D-Ala

<220>
<221> MOD_RES
<222> (2)
<223> D-Asn

<220>
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<222> (3)
<223> D-Phe

<220>
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<222> (4)
<223> D-Glu

<220>
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<222> (5)
<223> D-Asp

<220>
<221> MOD_RES
<222> (6)
<223> D-Gly

<220>
<221> MOD_RES
<222> (7)
<223> D-Ile

<220>
<221> MOD_RES
<222> (8) .. (9)
<223> D-Arg

<220>
<221> MOD_RES
<222> (10)
<223> D-Leu

<220>
<221> MOD_RES
<222> (11)
<223> D-Glu

<220>
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<222> (12)
<223> D-Gln

<220>
<221> MOD_RES
<222> (13)
<223> D-Ala

<220>
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<222> (14)
<223> D-Ile

<220>
<221> MOD_RES
<222> (15)
<223> D-Trp

<220>
<221> MOD_RES
<222> (16)
<223> D-Ile

<400> 69
Ala Asn Phe Glu Asp Gly Ile Arg Arg Leu Glu Gln Ala Ile Trp Ile
1 5 10 15

<210> 70
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
6xHis tag

<400> 70
His His His His His His
1 5